

## PRELIMINARY

JUNE XX, 2001

RICHARD MCCORMACK  
RAMCO INC.  
6362 FERRIS STREET, SUITE C  
SAN DIEGO CA 92121

Application No.  
976608

After examination of your Application No. 976608 (RAMCO Inc. Power Plant, Chula Vista) for an Air Pollution Control District Authority to Construct for a simple cycle gas turbine, to be located at 3497 Main Street in the City of Chula Vista, California, the District has decided on the following action:

Authority to Construct is granted pursuant to Rule 20 of the Air Pollution Control District Rules and Regulations for the natural gas-fueled Ramco Inc. Power Plant consisting of:

One (1) Pratt & Whitney (twin pak) 62.4 MW nominally rated Model FT4C-3F simple cycle gas turbine, natural gas fired, with a heat input rating of 797.7 MM Btu/hr (HHV), equipped with dry low-NOx combustors and a Selective Catalytic Reduction (SCR) system including an automatic ammonia injection control system for control of NOx, Continuous Emissions Monitoring System (CEMS), data acquisition and recording systems and oxidation catalyst system.

This Authority to Construct is granted with the following conditions:

### *(General Requirements)*

1. The applicant shall provide access, facilities, utilities, and any necessary safety equipment for source testing and inspection upon the request of the Air Pollution Control District.
2. When operating on natural gas, both turbines shall be fired on Public Utility Commission (PUC) quality natural gas only. The applicant shall maintain, on-site, quarterly records of the natural gas sulfur content (grains of sulfur compounds per 100 dscf of natural gas) and the higher and lower heating values (Btu/scf) of the natural gas; and provide such records to District personnel upon request.

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3. Permittee shall submit a complete Acid Rain permit application prior to commencement of operation in accordance with 40 CFR Part 72 to the District and a copy to EPA Region IX.
4. For this equipment, the applicant shall hold allowances in accordance with 40 CFR 72.9(c)(1).
5. All records required by this permit shall be maintained for a minimum of five years and made available to District personnel upon request. Prior to issuance of a final Permit to Operate, a location in San Diego County, approved by the District, at which the records shall be stored and made available for District review, shall be established.
6. Within twelve months of commencing commercial operation at the site, the plant operator shall submit a 40 CFR Part 70 permit application (Title V) to the District pursuant to District Regulation XIV. (*Pursuant to 40CFR72.2, commencing commercial operation means to have begun to generate electricity for sale, including the sale of test generation.*)
7. Except during startups and shutdowns, the SCR and oxidation catalyst control systems, including the automatic ammonia injection system serving the turbine, shall be in full operation at all times when the turbines is in operation.
8. In the event of a breakdown in an automatic ammonia injection control system, a trained operator shall operate the system manually and the breakdown shall be reported to the District Compliance Division pursuant to Rule 98.
9. An application for modification of District permits for this equipment shall be required for any proposed physical or operational modification to the equipment described herein, such as a modification to convert these simple cycle turbines to combined cycle units. Applicable New Source Review requirements for the proposed equipment modification shall be re-evaluated at that time.

*(Emission limits)*

10. For the purposes of this Authority to Construct, startup conditions shall be defined as the time when fuel flow begins until the time that the unit complies with the emission limits specified in this Authority to Construct but in no case exceeding 30 minutes per occurrence. Shutdown conditions shall be defined as the time preceding the moment at which fuel flow ceases during which the unit does not comply with the emission limits specified in this Authority to Construct but in no case exceeding 30 minutes per occurrence. The Data Acquisition System (DAS), as required by 40CFR75, shall record these events. This condition may be modified by the District based on field performance of the equipment.

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11. Total combined oxides of nitrogen emissions from all turbines at this stationary source shall not exceed the major source threshold of 50 tons per calendar year. The daily NO<sub>x</sub> mass emissions from each turbine shall be recorded daily. The aggregate NO<sub>x</sub> mass emissions from all turbines for each calendar month, and for each rolling 12-month period, shall be calculated and recorded monthly. In the event that an annual major stationary source threshold is projected to be triggered, the applicant shall submit a complete application to modify this permit at least 6 months prior to the projected date of exceedance demonstrating how compliance with all applicable requirements will be achieved.
12. Emissions of oxides of nitrogen (NO<sub>x</sub>), calculated as nitrogen dioxide, from the turbine exhaust stack shall not exceed 9 parts per million volume on a dry basis (ppmvd) corrected to 15% oxygen and averaged over each clock hour and shall not exceed 5 parts per million volume on a dry basis (ppmvd) corrected to 15% oxygen and averaged over each continuous rolling 3-hour period. These limits shall not apply during startup and shutdown conditions.
13. Total combined Carbon Monoxide (CO) emissions from all turbines at this site shall not exceed the Prevention of Significant Deterioration (PSD) threshold of 250 tons per calendar year. The daily CO mass emissions from each turbine shall be recorded daily. The aggregate CO mass emissions from both turbines for each calendar month, and for each rolling 12-month period, shall be calculated and recorded monthly. In the event that an annual PSD stationary source threshold is projected to be triggered, the applicant shall submit a complete application to modify this permit at least 6 months prior to the projected date of exceedance demonstrating how compliance with all applicable requirements will be achieved.
14. Emissions of carbon monoxide (CO) from the turbine exhaust stack shall not exceed 70 parts per million volume on a dry basis (ppmvd) corrected to 15% oxygen and averaged over each clock hour. Compliance with this limit shall be demonstrated at the time of the initial compliance test and continuously thereafter. This limit shall not apply during startup and shutdown conditions. The District may revise this CO emission limit based on observed turbine and oxidation catalyst performance.
15. Emissions of volatile organic compounds (VOCs), calculated as methane, from the turbine exhaust stack shall not exceed 2 parts per million volume on a dry basis (ppmvd) corrected to 15% oxygen. Compliance with this limit shall be demonstrated at the time of the initial compliance test and at least annually thereafter. This limit shall not apply during startup and shutdown conditions.
16. Emissions of particulate matter less than 10 microns (PM<sub>10</sub>), shall not exceed 4.7 lbs/hr. Compliance with this limit shall be demonstrated at the initial compliance test and at least annually thereafter.

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17. Ammonia emissions from the gas turbine shall not exceed 10 parts per million volume on a dry basis (ppmvd) corrected to 15% oxygen (average of three subtests). Compliance with this limit shall be demonstrated at the initial compliance test and at least annually thereafter.

*(Monitoring and recordkeeping)*

18. An operating log or Data Acquisition System (DAS) records shall be maintained on site to record actual times and durations of all startups, shutdowns, quantity of fuel used, hours of daily operation, and total cumulative hours of operation during each calendar year.
19. A Continuous Emission Monitoring System (CEMS) shall be installed and calibrated to measure, record and report the hourly average concentration of oxides of nitrogen (NO<sub>x</sub>), the average concentration of NO<sub>x</sub> over a rolling 3-hour period, the hourly average concentration of carbon monoxide (CO), and the percent oxygen (O<sub>2</sub>) in the exhaust gas. The CEMS shall also report the calculated hourly mass emission rate of NO<sub>x</sub> and the calculated daily mass emission rate of CO. Upon initial firing and prior to final approval of the permanent CEMS system, a portable properly calibrated CEMS shall be used to continuously measure and record these conditions in accordance with a CEMS protocol approved by the District. The portable CEMS shall remain in full operation at all times when the turbine is in operation until the permanent CEMS has been properly installed and certified. The permanent CEMS shall thereafter be in full operation at all times when both turbines are in operation.
20. The permanent CEMS shall be installed, certified and maintained in accordance with applicable federal regulations including the requirements of Sections 75.10 and 75.12 of Title 40, Code of Federal Regulations Part 75 (40 CFR 75), the performance specifications of Appendix A of 40 CFR 75, the quality assurance procedures of Appendix B of 40 CFR 75, and a CEMS protocol approved by the District. At least 60 days prior to the operation of both the portable and permanent CEMS, the applicant shall submit a CEMS operating protocol to the District for written approval.
21. The District shall be notified in writing at least two (2) weeks prior to any changes made in the CEMs software that affect the measurement, calculation or correction of data displayed and/or recorded by the CEMs.
22. On and after initial startup, this equipment shall be equipped with continuous parametric monitors to measure (or calculate) and to record the following operational characteristics:
  - a. hours of operation (hours),
  - b. natural gas flow rate (scfh),
  - c. exhaust gas temperature ( ° F),

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- d. ammonia injection rate (lbs/hr),
- e. molar ratio of ammonia injection rate to turbine NO<sub>x</sub> emission rate at SCR inlet (instantaneous), and
- f. power output (MW).

These monitors shall be installed, calibrated, and maintained in accordance with the manufacturer's recommended procedures and a protocol approved by the District. Such protocol shall be submitted to the District for written approval at least 60 days prior to initial startup. This protocol shall include, at a minimum, a description of the equipment used for direct measurement of operating characteristics and the methodology used to calculate the remaining operating characteristics. All monitors shall be in full operation at all times when each respective turbine is in operation.

- 23. Non-resettable totalizing meters with an accuracy of at least +/-5% shall be installed in the natural gas fuel line to measure volumetric flow rate corrected for temperature and pressure of natural gas.
- 24. Monthly and annual records of fuel usage shall be maintained and made available to the District upon request. These records shall indicate actual times and duration of all startups, shutdowns, and quantify of fuel used.
- 25. The ammonia injection flow rate shall be continuously monitored, recorded and controlled. Records of ammonia injection rate and flow rate device calibration shall be maintained and made available to the District.
- 26. A monitoring plan in conformance with 40 CFR 75.53 shall be submitted to EPA Region 9 and the District at least 45 days prior to the initial source test, as required in 40 CFR 75.62.

*(Source Test Requirements)*

- 27. The exhaust stack shall be equipped with source test ports and platforms to allow for the measurement and collection of stack gas samples consistent with all approved test protocols. The ports and platforms shall be constructed in accordance with San Diego Air Pollution Control District Method 3A, Appendix Figure 2, and approved by the District.
- 28. No later than 90 days after commencement of commercial operation (40CFR70.4(b)(2)), a Relative Accuracy Test Audit (RATA) and all other required certification tests shall be performed and completed on the permanent CEMs in accordance with 40 CFR Part 75 Appendix A performance specifications. At least 45 days prior to the test date, the applicant shall submit a test protocol to the District for approval. Additionally, the District shall be notified a minimum of

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45 days prior to the test so that observers may be present. Within 30 days of completion of this test, a written test report shall be submitted to the District for approval.

29. Within 60 days after the initial startup, an initial source test shall be conducted by an independent, ARB approved tester or the District, at the applicant's expense, to determine initial compliance with the emission standards of this Authority to Construct. A source test protocol shall be submitted to the District for approval at least 30 days prior to initial startup. The source test protocol shall comply with the following requirements:
  - a. Measurements of outlet oxides of nitrogen (NO<sub>x</sub>), carbon monoxide (CO), and stack gas oxygen content (O<sub>2</sub>%) shall be conducted in accordance with the District Source test method 100, or the Air Resources Board (ARB) Test Method 100 as approved by the U.S. Environmental Protection Agency (EPA).
  - b. Measurements of outlet non-methane hydrocarbon (NMHC) emissions shall be conducted in accordance with the San Diego Air Pollution Control District Methods 25A and/or 18.
  - c. Measurements of particulate matter less than 10 microns (PM<sub>10</sub>) shall be conducted in accordance with the U.S. Environmental Protection Agency (EPA) Methods 201A and 202.
  - d. Measurements of outlet ammonia shall be conducted in accordance with Bay Area Air Quality Management District (BAAQMD) test method ST-1B.
  - e. Source testing shall be performed at no less than 80% of the turbine rated load.
30. In the event the initial source test results do not demonstrate compliance with District Rules and Regulations and emissions standards specified herein, to the satisfaction of the District, the applicant shall take corrective action to meet these standards. Any proposed corrective action that would result in a modification to the equipment shall require an application for a District Authority to Construct for such modification.
31. This equipment shall be source tested at least once per permit year, before the Permit to Operate renewal date, to demonstrate compliance with the outlet NO<sub>x</sub>, outlet CO, outlet VOC, and outlet ammonia emission standards of this Authority to Construct, using District approved methods, unless otherwise directed in writing by the District.
32. Based on source testing, additional monitoring parameters may be established to ensure compliance. Operating characteristics monitored by continuous parametric monitors may also be restricted to specified ranges or limits, as determined by the District, based upon manufacturer's recommended operating procedures and initial compliance source test results.

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This Authority to Construct authorizes temporary operation of the above-specified equipment. This temporary permit to operate shall take effect upon written notification to the District that construction has been completed in accordance with this Authority to Construct. This temporary permit to operate will remain in effect, unless withdrawn or modified by the District, until the equipment is inspected by the District and a revised temporary permit (Startup Authorization) is issued or a Permit to Operate is granted or denied.

Upon completion of construction in accordance with this Authority to Construct and prior to commencing operation, the applicant must complete and mail, deliver, or fax the enclosed Construction Completion Notice to the District. After mailing, delivering, or faxing the Notice, the applicant may commence operation of the equipment. Operation must be in compliance with all of the conditions of this Authority to Construct and applicable District rules.

This Authority to Construct shall be posted on or within 25 feet of the above described equipment, or maintained readily available at all times on the operating premises.

This Air Pollution Control District Authority to Construct does not relieve the holder from obtaining permits or authorizations, which may be required by other governmental agencies.

Within thirty (30) days after receipt of this Authority to Construct, the applicant may petition the Hearing Board for a hearing on any conditions imposed herein in accordance with Rule 25.

This Authority to Construct is not transferable and will expire one year from the date of this letter, unless an extension is granted in writing.

If you have any questions regarding this action, please contact the undersigned at (858) 650-4608.

ARTHUR CARBONELL  
Associate Air Pollution Control Engineer

AC:

Enclosure

cc: Compliance Division

RAMCO INC.  
Application No. 976608

MAY XX, 2001

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